

A SURVEY OF PERSONS IN THE CENTRAL VALLEY OF
CALIFORNIA WHO MIXED AND LOADED PROPARGITE DURING
JUNE AND JULY 1981 IN VARIOUS FORMS OF PACKAGING
INCLUDING THE WATER SOLUBLE BAG

by

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SUMMARY

The miticide Omite 30W (30% propargite, wettable powder formulation) was the basis for some concerns about worker safety following the receipt and analysis of 90 reports by California physicians of occupational illnesses or injuries attributed to propargite in 1979 and 116 in 1980. The manufacturer, Uniroyal Chemical Corporation, packaged 150,000 pounds of Omite 30W in water soluble packages on a trial basis, with the hope that exposure to the powder would be decreased. During June and July 1981, a survey was conducted of persons who mix and load propargite in various forms of packaging, namely, Omite 30W in 5-lb. and 25-lb. bags, Omite 6E, Omite 30W in 5-lb. water soluble bags, and Comite. The product of major interest was Omite 30W in the new water soluble bags.

The names of 36 growers in the Central Valley who intended to use Omite in water soluble bags in 1981 were obtained from Uniroyal. Comments on the benefits and drawbacks of this trial packaging as compared with the conventional packaging were solicited from 20 of the 36 growers; the remaining growers were not available for comments or chose not to participate in the survey. Some of the participating growers had 2 or more mixer/loaders available for comment; therefore, a total of 26 persons were included in the survey. Twenty-five persons commented favorably on the trial formulation. Only 1 individual was dissatisfied. It appears that the use of the water soluble bag formulation will be more acceptable to the user and would be expected to result in less overexposure.

INTRODUCTION

Propargite (Omite, Comite), a widely used pesticide applied to a number of field and tree crops to control mites has been the subject of some concern following California physicians' reports of 90 exposures to propargite resulting in illnesses or injuries in 1979, and 116 in 1980. The pesticide has been involved in the largest number of skin and/or eye injury incidents affecting mixers and loaders, with 22 incidents in 1979 and 16 in 1980. A majority of these incidents involved 1 formulation of propargite, Omite 30W.

In 1980, the manufacturer and leading formulator of propargite, Uniroyal Chemical Corporation, reformulated 150,000 pounds of Omite 30W into water soluble packages on a trial basis, in a test to see if employee exposures to the pesticide during the mixing and loading process could be decreased. A survey was conducted in June and July 1981 of persons who have mixed and loaded propargite in various formulations, including Omite 30W in 5 lb. and 25-lb. bags, Omite 6E, and Comite, as well as the Omite 30W in water soluble packages.

METHODS

A list of 36 growers who were considering using Omite 30W in the water soluble packages was compiled with assistance from Uniroyal. Growers were contacted by telephone to explain the purpose of the survey and to obtain permission to interview employees. Employees, usually mixer/loaders, were surveyed on their use experience with the various formulations of Omite, their use experience with other materials packaged in water soluble bags, their opinion on the reduction in dustiness, if any, of the water soluble bag, their opinion on the convenience of the size, their opinion on any time-savings associated with using water soluble bags and their overall consideration of the product in comparison to the wettable powder in conventional packaging. Interviews were conducted on-site, with the exception of 3 which were conducted by telephone. The results are summarized in the following section.

RESULTS

Following the initial contacts to the 36 growers, 16 growers were eliminated from the survey. Two of the growers could not be reached for comment. Four growers stated they would not be using Omite 30W, but would use another miticide instead. Three growers stated they had intended to use Omite 30W in water soluble bags, but were unable to purchase the pesticide in this packaging. Two other growers stated they did not anticipate using Omite this year. An additional 4 growers had planned to use Omite 30W in the water soluble bags, but did not need a miticide this year. One grower used the product, but declined to allow his employees to be interviewed.

The remaining 20 growers were reached for comment and agreed to be interviewed. Some of these growers had 2 or more mixer/loaders available for comment and, therefore, a total of 26 persons were included in this survey.

Of the 26 persons surveyed, use experience with Omite products ranged from 2 months to 9 years, with an average of 4 years experience. Only 2 individuals had no prior use experience with materials packaged in water soluble bags.

Twenty-five of the 26 persons stated that the water soluble bag reduces the dustiness of the material while mixing and loading as compared to the product in conventional packaging. The remaining 1 person had no opinion. Thirteen of these 25 persons had use experience with Omite in both 5-lb. and 25-lb. bags. They commented that the reduction in dustiness was observed in comparison to both package sizes.

When asked if mixing and loading required more or less time using the water soluble bag, 19 persons replied "less time", 5 persons replied "about the same amount of time", and 1 person replied "more time". This person also commented that his tank could not provide enough agitation and, therefore, clogging resulted.

Broken water soluble bags did not appear to be a problem. Only 6 persons commented that they found broken water soluble bags; 2 of these people estimating as many as 1 bag in 20 broken. The general consensus, however, was that broken water soluble bags were not common occurrences.

When asked about the convenience of the water soluble bag's size, 16 persons felt the bag was a convenient size, 7 persons felt the bag should be larger (either 8-lb., 10-lb., 20-lb. or 25-lb. bag), 2 persons felt the bag should be smaller (2-1/2 lb. bag), and 1 person had no opinion. Having partial bags leftover was rarely a problem because most mixer/loaders commented they would use an additional 2-1/2 lbs. to avoid such a situation.

In general, the consensus (25 of the 26 persons) was that the water soluble bag was an improvement over the wettable powder in conventional packaging. One person expressed that it was not an improvement because the bag caused clogging in the tank. However, he further commented that he had had the proper machinery to provide ample agitation during mixing, his opinion would have been more favorable.

Overall, Omite 30W in the water soluble bag was a well-liked product. On a scale of 1 to 5 (1 equivalent to dislike, 5 equivalent to like), 18 persons rated the product a 5, 7 persons rated the product a 4, and 1 person rated the product a 2.

Details of each person's interview are provided in Table I.

DISCUSSION

The objective of packaging powdered pesticide concentrates in water soluble bags is to reduce exposure of mixers and loaders to relatively toxic materials that are particularly dusty and/or difficult to handle as a wettable powder. Several pesticide formulators have found that the exposure of persons who mix and load pesticides in the field that are dusty, wettable or soluble powders can be reduced to acceptable levels by use of the

water soluble bags to enclose the powders until they enter a mix tank of water. The advantage of this form of packaging is that it reduces exposure by: (1) establishing a discreet unit of volume to be used in mixing, eliminating the possible need of measuring the pesticide by pint or pound, and (2) seals this unit of concentrate until it is safely contained in the mix tank and dissolved in water. The disadvantages are that: (1) water soluble packaging costs slightly more per unit volume for the producer to manufacture, and therefore, for the consumer to purchase; (2) mixing procedures must be altered somewhat to prevent employees from being exposed to burst bags; and (3) care must be taken in packaging and shipping pesticides in water soluble bags to prevent their bursting during shipment and handling.

There are several other possible ways of mitigating the exposure to dusty pesticide powders. These include: (1) use of additional protective clothing and equipment such as gloves, respirators, rainsuits, and possibly goggles; and (2) packaging of Omite 30W in larger, conventional bags, so that fewer bags need be opened and dumped. For the last 2 years, the registrant has marketed Omite 30W in a 25-pound bag; this product was relatively well received, in comparison with the conventional 5-pound bag, previously sold, however, generally the water soluble bag was preferred over both sizes by the users in this survey.

It was anticipated that users of Omite 30W packaged in water soluble bags would prefer it over conventional packaging. Not only is there a reduction in exposure of mixer/loader to the material, but it is also easier to use the water-soluble bag. The mixer/loader merely opens the outer paper bag and drops the water soluble bag into the mix tank while agitating the material. These expectations were confirmed; it was evident that the Omite users interviewed would prefer it be in water soluble bags. Ninety-six percent (25/26) of all the persons interviewed liked the product in water soluble bags and felt it was an improvement over the wettable powder in conventional packaging. With the favorable responses obtained from this survey, it would appear that there is strong consideration for Uniroyal Chemical Corporation to offer Omite 30W in the water soluble bag.

CONCLUSION

Based on the data gathered in this survey the following recommendations can be made to the registrant for its action:

1. Provide Omite 30W in large (20-30 pound) and small (2-5 pound) packages.
2. Package 5-pound bags of Omite 30W in water soluble packages.
3. Provide information to purchasers of water soluble packages of Omite 30W on how to modify their equipment and work practices in order to obtain maximum protection benefits.

TABLE I

A Summary of the Survey of Persons in the Central Valley of California Who Mixed and Loaded Various Formulations of Propargite Including the Wettable Powder in the Water Soluble Bag

QUESTIONS	PERSON CONTACTED	
	1	2
How many years have you been mixing and loading pesticides?	3	5
How many seasons have you worked with Omite?	3	5
What Omite formulations have you used (Omite 30W in 5-lb. bags, and/or in 25-lb. bags, Omite 6E, or Comite)?	Omite 30W in both 5-lb. and 25-lb. bags	Omite 30W in both 5-lb. and 25-lb. bags (first year using 25-lb. bags)
Have you ever gotten a rash or eye injury that you feel was a result of using Omite?	No	Yes, a slight rash on his legs
Have you worked with other materials packaged in water soluble bags? What materials?	Yes; Nudrin	Yes
Does the bag reduce the dustiness of the material while mixing/loading as compared to the 5-lb. bag; as compared to the 25-lb. bag?	Yes; for both	Yes, for both
Does mixing/loading require more or less time using the water soluble bag?	Less time	Less time
Do you find any broken water soluble bags? How frequently? How many?	No	No
Is the water soluble bag a convenient size?	25-lb. bag in water soluble package is needed	No opinion
Do you ever have "partials" leftover?	No	No
Do you feel the Omite 30W water soluble bag is an improvement over the wetttable powder in conventional packaging?	Yes, it is more convenient	No opinion, uses whatever his employer provides

TABLE I (Continued)

A Summary of the Survey of Persons in the Central Valley of California Who Mixed and Loaded Various Formulations of Propargite Including the Wettable Powder in the Water Soluble Bag

QUESTIONS	PERSON CONTACTED	
	1	2
On a scale of 1 to 5, how well do you like the water soluble bag? (1 = dislike, 5 = like)	5	5
Have you worked with other materials which you felt were particularly dusty or irritating? What materials?	Yes; Kryocide, dimethoate and Dipel	Yes; Kryocide and dimethoate
Do you have any additional comments on Omite in water soluble packaging?	Easier to handle, better for the mixer/loader	It is better because it reduces the dust

TABLE I

A Summary of the Survey of Persons in the Central Valley of California Who Mixed and Loaded Various Formulations of Propargite Including the Wettable Powder in the Water Soluble Bag

QUESTIONS	PERSON CONTACTED	
	3	4
How many years have you been mixing and loading pesticides?	3	1-1/2
How many seasons have you worked with Omite?	3	1-1/2
What Omite formulations have you used (Omite 30W in 5-lb. bags, and/or in 25-lb. bags, Omite 6E, or Comite)?	Omite 30W in both 5-lb. and 25-lb. bags	Omite 30W in both 5-lb. and 25-lb. bags
Have you ever gotten a rash or eye injury that you feel was a result of using Omite?	No	No
Have you worked with other materials packaged in water soluble bags? What materials?	Yes; Guthion and Lannate	Yes; Guthion and Lannate
Does the bag reduce the dustiness of the material while mixing/loading as compared to the 5-lb. bag; as compared to the 25-lb. bag?	Yes; for both	Yes; for both
Does mixing/loading require more or less time using the water soluble bag?	Less time	Less time
Do you find any broken water soluble bags? How frequently? How many?	Yes; 1 bag out of 20 bags	Yes; 1 bag out of 20 bags
Is the water soluble bag a convenient size?	2-1/2 lb. bags would be better for smaller loads	2-1/2 lb. bags would be better for smaller loads
Do you ever have "partials" leftover?	Yes	Yes
Do you feel the Omite 30W water soluble bag is an improvement over the wetttable powder in conventional packaging?	Yes	Yes

TABLE I (Continued)

A Summary of the Survey of Persons in the Central Valley of California Who Mixed and Loaded Various Formulations of Propargite Including the Wettable Powder in the Water Soluble Bag

QUESTIONS	PERSON CONTACTED	
	3	4
On a scale of 1 to 5, how well do you like the water soluble bag? (1 = dislike, 5 = like)	4	4
Have you worked with other materials which you felt were particularly dusty or irritating? What materials?	Yes; Karmex, Simazine Diazinon and sulfur	Yes; Karmex, Simazine Diazinon and sulfur
Do you have any additional comments on Omite in water soluble packaging?	Hard to handle if you have partials	No

TABLE I

A Summary of the Survey of Persons in the Central Valley of California Who Mixed and Loaded Various Formulations of Propargite Including the Wettable Powder in the Water Soluble Bag

QUESTIONS	PERSON CONTACTED	
	5	6
How many years have you been mixing and loading pesticides?	3	3
How many seasons have you worked with Omite?	3	3
What Omite formulations have you used (Omite 30W in 5-lb. bags, and/or in 25-lb. bags, Omite 6E, or Comite)?	Omite 30W in 5-lb. bags	Omite 30W in 5-lb. bags
Have you ever gotten a rash or eye injury that you feel was a result of using Omite?	No	No
Have you worked with other materials packaged in water soluble bags? What materials?	Yes; Guthion and Lannate	Yes; Guthion and Lannate
Does the bag reduce the dustiness of the material while mixing/loading as compared to the 5-lb. bag; as compared to the 25-lb. bag?	Yes; as compared to the 5-lb. bag	Yes; as compared to the 5-lb. bag
Does mixing/loading require more or less time using the water soluble bag?	Less time	Less time
Do you find any broken water soluble bags? How frequently? How many?	No	No
Is the water soluble bag a convenient size?	Yes	Yes
Do you ever have "partials" leftover?	No	No
Do you feel the Omite 30W water soluble bag is an improvement over the wetttable powder in conventional packaging?	Yes, it is easier to use	Yes, it is easier to use

TABLE I (Continued)

A Summary of the Survey of Persons in the Central Valley of California Who Mixed and Loaded Various Formulations of Propargite Including the Wettable Powder in the Water Soluble Bag

QUESTIONS	PERSON CONTACTED	
	5	6
On a scale of 1 to 5, how well do you like the water soluble bag? (1 = dislike, 5 = like)	5	5
Have you worked with other materials which you felt were particularly dusty or irritating? What materials?	Question not asked	Question not asked
Do you have any additional comments on Onite in water soluble packaging?	There is no problem as long as the bags are mixed in early in the mixing process to allow them to dissolve	No comments

TABLE I

A Summary of the Survey of Persons in the Central Valley of California Who Mixed and Loaded Various Formulations of Propargite Including the Wettable Powder in the Water Soluble Bag

QUESTIONS	PERSON CONTACTED	
	7	8
How many years have you been mixing and loading pesticides?	7	8 months
How many seasons have you worked with Omite?	5	2 months
What Omite formulations have you used (Omite 30W in 5-lb. bags, and/or in 25-lb. bags, Omite 6E, or Comite)?	Omite 30W in both 5-lb. and 25-lb. bags	Omite 30W in 5-lb. bags
Have you ever gotten a rash or eye injury that you feel was a result of using Omite?	Yes; a slight rash about 1 year ago	Yes; a slight rash
Have you worked with other materials packaged in water soluble bags? What materials?	Yes; Lannate	Yes; Nudrin
Does the bag reduce the dustiness of the material while mixing/loading as compared to the 5-lb. bag; as compared to the 25-lb. bag?	Yes, for both	Yes, definitely
Does mixing/loading require more or less time using the water soluble bag?	Less time	Less time
Do you find any broken water soluble bags? How frequently? How many?	No	No
Is the water soluble bag a convenient size?	25-lb. bag in water soluble package would be better	Yes
Do you ever have "partials" leftover?	No	No
Do you feel the Omite 30W water soluble bag is an improvement over the wettable powder in conventional packaging?	Yes	Yes, definitely

TABLE I (Continued)

A Summary of the Survey of Persons in the Central Valley of California Who Mixed and Loaded Various Formulations of Propargite Including the Wettable Powder in the Water Soluble Bag

QUESTIONS	PERSON CONTACTED	
	7	8
On a scale of 1 to 5, how well do you like the water soluble bag? (1 = dislike, 5 = like)	4	5
Have you worked with other materials which you felt were particularly dusty or irritating? What materials?	Yes; Defend, Dipel, Plictran and parathion	Question not asked
Do you have any additional comments on Onite in water soluble packaging?	Definitely an improved formulation. Every wettable powder should be in water soluble packages	It should be made available as soon as possible to reduce injuries

TABLE I

A Summary of the Survey of Persons in the Central Valley of California Who Mixed and Loaded Various Formulations of Propargite Including the Wettable Powder in the Water Soluble Bag

QUESTIONS	PERSON CONTACTED	
	9	10
How many years have you been mixing and loading pesticides?	7	5
How many seasons have you worked with Omite?	7	4
What Omite formulations have you used (Omite 30W in 5-lb. bags, and/or in 25-lb. bags, Omite 6E, or Comite)?	All formulations of Omite	Omite 30W in 5-lb. bags Omite 6E and Comite
Have you ever gotten a rash or eye injury that you feel was a result of using Omite?	Yes, a rash almost every year	Yes, a rash once
Have you worked with other materials packaged in water soluble bags? What materials?	Yes; Nudrin and Vendex	Yes; Nudrin
Does the bag reduce the dustiness of the material while mixing/loading as compared to the 5-lb. bag; as compared to the 25-lb. bag?	Yes; for both	Yes; as compared to the 5-lb. bag
Does mixing/loading require more or less time using the water soluble bag?	Less time, you don't have to shake the bags	About the same, but mixing is a lot easier
Do you find any broken water soluble bags? How frequently? How many?	Yes; infrequently, 1 bag per season	No
Is the water soluble bag a convenient size?	Yes	Yes, it's okay
Do you ever have "partials" leftover?	No	No
Do you feel the Omite 30W water soluble bag is an improvement over the wettable powder in conventional packaging?	Definitely	Yes, definitely

TABLE I (Continued)

A Summary of the Survey of Persons in the Central Valley of California Who Mixed and Loaded Various Formulations of Propargite Including the Wettable Powder in the Water Soluble Bag

QUESTIONS	PERSON CONTACTED	
	9	10
On a scale of 1 to 5, how well do you like the water soluble bag? (1 = dislike, 5 = like)	5	5
Have you worked with other materials which you felt were particularly dusty or irritating? What materials?	Question not asked	Yes; Kryocide and Nudrin
Do you have any additional comments on Omite in water soluble packaging?	The bag dissolves real well	No comments

TABLE I

A Summary of the Survey of Persons in the Central Valley of California Who Mixed and Loaded Various Formulations of Propargite Including the Wettable Powder in the Water Soluble Bag

QUESTIONS	PERSON CONTACTED	
	11	12
How many years have you been mixing and loading pesticides?	11	2
How many seasons have you worked with Omite?	4-5	2
What Omite formulations have you used (Omite 30W in 5-lb. bags, and/or in 25-lb. bags, Omite 6E, or Comite)?	Omite 30W in both 5-lb. and 25-lb. bags	Omite 30W in 5-lb. bags
Have you ever gotten a rash or eye injury that you feel was a result of using Omite?	No	No
Have you worked with other materials packaged in water soluble bags? What materials?	Yes; Lannate	Yes; Lannate
Does the bag reduce the dustiness of the material while mixing/loading as compared to the 5-lb. bag; as compared to the 25-lb. bag?	Yes; for both	Yes; as compared to the 5-lb. bag
Does mixing/loading require more or less time using the water soluble bag?	Less time	Less time
Do you find any broken water soluble bags? How frequently? How many?	No	No
Is the water soluble bag a convenient size?	Yes	Yes
Do you ever have "partials" leftover?	No	No
Do you feel the Omite 30W water soluble bag is an improvement over the wettable powder in conventional packaging?	Yes, definitely	Yes

TABLE I (Continued)

A Summary of the Survey of Persons in the Central Valley of California Who Mixed and Loaded Various Formulations of Propargite Including the Wettable Powder in the Water Soluble Bag

QUESTIONS	PERSON CONTACTED	
	11	12
On a scale of 1 to 5, how well do you like the water soluble bag? (1 = dislike, 5 = like)	5	5
Have you worked with other materials which you felt were particularly dusty or irritating? What materials?	Yes; Defend and Kroyocide	Yes; sulfur
Do you have any additional comments on Omite in water soluble packaging?	The water soluble bag is better for the growers	No comments

TABLE I

A Summary of the Survey of Persons in the Central Valley of California Who Mixed and Loaded Various Formulations of Propargite Including the Wettable Powder in the Water Soluble Bag

QUESTIONS	PERSON CONTACTED	
	13	per 14 telephone
How many years have you been mixing and loading pesticides?	5	10
How many seasons have you worked with Omite?	5	6
What Omite formulations have you used (Omite 30W in 5 lb. bags, and/or in 25 lb. bags, Omite 6E, or Comite)?	Omite 30W in 5-lb. bags	Omite 30W in 5 lb. bags
Have you ever gotten a rash or eye injury that you feel was a result of using Omite?	Yes, a rash	No
Have you worked with other materials packaged in water soluble bags? What materials?	Yes, Nudrin and Lannate	Yes
Does the bag reduce the dustiness of the material while mixing/loading as compared to the 5 lb. bag; as compared to the 25 lb. bag?	Yes; definitely as compared to the 5-lb. bag	Yes; as compared to the 5-lb. bag
Does mixing/loading require more or less time using the water soluble bag?	Less time, if you have the proper equipment with adequate agitation	About the same time, if done right
Do you find any broken water soluble bags? How frequently? How many?	No	Yes; only 1 bag
Is the water soluble bag a convenient size?	Yes	Need 10-lb. or 20-lb. bags also
Do you ever have "partials" leftover?	No	No
Do you feel the Omite 30W water soluble bag is an improvement over the wetttable powder in conventional packaging?	Yes	Yes

TABLE I (Continued)

A Summary of the Survey of Persons in the Central Valley of California Who Mixed and Loaded Various Formulations of Propargite Including the Wettable Powder in the Water Soluble Bag

QUESTIONS	PERSON CONTACTED	
	13	per 14 telephone
On a scale of 1 to 5, how well do you like the water soluble bag? (1 = dislike, 5 = like)	4	4
Have you worked with other materials which you felt were particularly dusty or irritating? What materials?	Yes; Defend, Cygon and Dipel	No, not really
Do you have any additional comments on Omite in water soluble packaging?	The bag is a good improvement and should reduce rashes	The bag is handier and should mitigate injuries

TABLE I

A Summary of the Survey of Persons in the Central Valley of California Who Mixed and Loaded Various Formulations of Propargite Including the Wettable Powder in the Water Soluble Bag

QUESTIONS	PERSON CONTACTED	
	15	16
How many years have you been mixing and loading pesticides?	15	10
How many seasons have you worked with Omite?	3	3-4
What Omite formulations have you used (Omite 30W in 5-lb. bags, and/or in 25-lb. bags, Omite 6E, or Comite)?	Omite 30W in 5-lb. bags	Omite 30W in 5-lb. bags
Have you ever gotten a rash or eye injury that you feel was a result of using Omite?	Yes, a mild rash on his forearm	No
Have you worked with other materials packaged in water soluble bags? What materials?	Yes; Lannate, Guthion and Vendex	Yes; Lannate
Does the bag reduce the dustiness of the material while mixing/loading as compared to the 5-lb. bag; as compared to the 25-lb. bag?	Yes; as compared to the 5-lb. bag	Yes; quite a bit, as compared to the 5-lb. bag
Does mixing/loading require more or less time using the water soluble bag?	Less time since you don't have to shake the bags	About the same amount of time
Do you find any broken water soluble bags? How frequently? How many?	Yes, only 1 bag	No
Is the water soluble bag a convenient size?	A 25-lb. bag would be better	Yes, it seems okay
Do you ever have "partials" leftover?	No	No
Do you feel the Omite 30W water soluble bag is an improvement over the wetttable powder in conventional packaging?	Yes	Yes

TABLE I (Continued)

A Summary of the Survey of Persons in the Central Valley of California Who Mixed and Loaded Various Formulations of Propargite Including the Wettable Powder in the Water Soluble Bag

QUESTIONS	PERSON CONTACTED	
	15	16
On a scale of 1 to 5, how well do you like the water soluble bag? (1 = dislike, 5 = like)	4 (if it were a bigger bag then would rate it a 5)	5
Have you worked with other materials which you felt were particularly dusty or irritating? What materials?	Yes; Vendex, Dithane and dimethoate	Yes; Dibrom and Sevin
Do you have any additional comments on Omite in water soluble packaging?	A bigger water soluble bag would be best, even a bunch of smaller ones in a large bag would be better	Happy to see that Omite came in the water soluble bags

TABLE I

A Summary of the Survey of Persons in the Central Valley of California Who Mixed and Loaded Various Formulations of Propargite Including the Wettable Powder in the Water Soluble Bag

QUESTIONS	PERSON CONTACTED	
	17	18
How many years have you been mixing and loading pesticides?	6	25
How many seasons have you worked with Omite?	6	8
What Omite formulations have you used (Omite 30W in 5-lb. bags, and/or in 25-lb. bags, Omite 6E, or Comite)?	Omite 30W in 5-lb. bags	Omite 30W in both 5-lb. and 25-lb. bags
Have you ever gotten a rash or eye injury that you feel was a result of using Omite?	Yes, a rash annually for about 1 week. Except for last year, no rash	Yes, has gotten 2 rashes during 2 seasons
Have you worked with other materials packaged in water soluble bags? What materials?	Yes; Lannate and Nudrin	No
Does the bag reduce the dustiness of the material while mixing/loading as compared to the 5-lb. bag; as compared to the 25-lb. bag?	Yes; as compared to the 5-lb. bag	Yes; definitely for both
Does mixing/loading require more or less time using the water soluble bag?	About the same amount of time	Less time
Do you find any broken water soluble bags? How frequently? How many?	No	No
Is the water soluble bag a convenient size?	No, a 10-lb. bag would be better	A 8-lb. bag would be more convenient
Do you ever have "partials" leftover?	No	No
Do you feel the Omite 30W water soluble bag is an improvement over the wettable powder in conventional packaging?	Yes, it's safer to use	Yes

TABLE I (Continued)

A Summary of the Survey of Persons in the Central Valley of California Who Mixed and Loaded Various Formulations of Propargite Including the Wettable Powder in the Water Soluble Bag

QUESTIONS	PERSON CONTACTED	
	17	18
On a scale of 1 to 5, how well do you like the water soluble bag? (1 = dislike, 5 = like)	4	5
Have you worked with other materials which you felt were particularly dusty or irritating? What materials?	No	Yes; Thiordan and Botran
Do you have any additional comments on Omite in water soluble packaging?	Never had any problems when using water soluble bags	No comments

TABLE I

A Summary of the Survey of Persons in the Central Valley of California Who Mixed and Loaded Various Formulations of Propargite Including the Wettable Powder in the Water Soluble Bag

QUESTIONS	PERSON CONTACTED	
	19	per 20 telephone
How many years have you been mixing and loading pesticides?	12	3
How many seasons have you worked with Omite?	3	3
What Omite formulations have you used (Omite 30W in 5-lb. bags, and/or in 25-lb. bags, Omite 6E, or Comite)?	Omite 30W in both 5-lb. and 25-lb. bags	Omite 30W in both 5-lb. and 25-lb. bags
Have you ever gotten a rash or eye injury that you feel was a result of using Omite?	No	No
Have you worked with other materials packaged in water soluble bags? What materials?	Yes	Yes; Defend
Does the bag reduce the dustiness of the material while mixing/loading as compared to the 5-lb. bag; as compared to the 25-lb. bag?	Yes, for both	Yes, for both
Does mixing/loading require more or less time using the water soluble bag?	About the same amount of time	Less time
Do you find any broken water soluble bags? How frequently? How many?	No	No
Is the water soluble bag a convenient size?	A 10 lb. bag would be better	Yes
Do you ever have "partials" leftover?	No	No
Do you feel the Omite 30W water soluble bag is an improvement over the wetttable powder in conventional packaging?	Yes	Yes

TABLE I (Continued)

A Summary of the Survey of Persons in the Central Valley of California Who Mixed and Loaded Various Formulations of Propargite Including the Wettable Powder in the Water Soluble Bag

QUESTIONS	PERSON CONTACTED	
	19	per 20 telephone
On a scale of 1 to 5, how well do you like the water soluble bag? (1 = dislike, 5 = like)	5	5
Have you worked with other materials which you felt were particularly dusty or irritating? What materials?	No	No
Do you have any additional comments on Omite in water soluble packaging?	He hopes enough will be available in the future. He would pay more for the water soluble bag	No comments

TABLE I

A Summary of the Survey of Persons in the Central Valley of California Who Mixed and Loaded Various Formulations of Propargite Including the Wettable Powder in the Water Soluble Bag

QUESTIONS	PERSON CONTACTED	
	per 21 telephone	22
How many years have you been mixing and loading pesticides?	10	5-6
How many seasons have you worked with Omite?	4-5	1
What Omite formulations have you used (Omite 30W in 5-lb. bags, and/or in 25-lb. bags, Omite 6E, or Comite)?	Omite 30W in both 5-lb. and 25-lb. bags	Omite 30W in 5-lb. bags
Have you ever gotten a rash or eye injury that you feel was a result of using Omite?	Yes, a slight rash a couple of years ago	No
Have you worked with other materials packaged in water soluble bags? What materials?	Yes; Nudrin	Yes; Lannate, Nudrin and Benlate
Does the bag reduce the dustiness of the material while mixing/loading as compared to the 5-lb. bag; as compared to the 25-lb. bag?	Yes, for both	Yes, as compared to the 5-lb. bag
Does mixing/loading require more or less time using the water soluble bag?	About the same amount of time	More time. Tank would not agitate well enough, so it clogged
Do you find any broken water soluble bags? How frequently? How many?	No	No
Is the water soluble bag a convenient size?	Yes	Yes
Do you ever have "partials" leftover?	Yes, sometimes	No
Do you feel the Omite 30W water soluble bag is an improvement over the wetttable powder in conventional packaging?	Yes, definitely	No, because of clogging

TABLE I (Continued)

A Summary of the Survey of Persons in the Central Valley of California Who Mixed and Loaded Various Formulations of Propargite Including the Wettable Powder in the Water Soluble Bag

QUESTIONS	PERSON CONTACTED	
	per 21 telephone	22
On a scale of 1 to 5, how well do you like the water soluble bag? (1 = dislike, 5 = like)	5	2
Have you worked with other materials which you felt were particularly dusty or irritating? What materials?	Yes; dimethoate	Yes; parathion
Do you have any additional comments on Omite in water soluble packaging?	It shouldn't have to cost more	If he had used different machinery, would have rated it higher

TABLE I

A Summary of the Survey of Persons in the Central Valley of California Who Mixed and Loaded Various Formulations of Propargite Including the Wettable Powder in the Water Soluble Bag

QUESTIONS	PERSON CONTACTED	
	23	24
How many years have you been mixing and loading pesticides?	5	15
How many seasons have you worked with Omite?	5	9
What Omite formulations have you used (Omite 30W in 5 lb. bags, and/or in 25 lb. bags, Omite 6E, or Comite)?	Omite 30W in both 5-lb. and 25-lb. bags	Omite 30W in 5-lb. bags, Omite 6E and Comite
Have you ever gotten a rash or eye injury that you feel was a result of using Omite?	No	Yes, presently has rash from using wetttable powder
Have you worked with other materials packaged in water soluble bags? What materials?	Yes; Lannate	Yes; Lannate, Guthion and Morestan
Does the bag reduce the dustiness of the material while mixing/loading as compared to the 5-lb. bag; as compared to the 25-lb. bag?	No opinion	Yes, as compared to the 5 lb. bag
Does mixing/loading require more or less time using the water soluble bag?	Less time	Less time
Do you find any broken water soluble bags? How frequently? How many?	No	No
Is the water soluble bag a convenient size?	Yes	Yes
Do you ever have "partials" leftover?	No	No
Do you feel the Omite 30W water soluble bag is an improvement over the wetttable powder in conventional packaging?	Yes, in terms of the 5-lb. bag, but it's about the same in terms of the 25-lb. bags	Yes, not as dusty

TABLE I (Continued)

A Summary of the Survey of Persons in the Central Valley of California Who Mixed and Loaded Various Formulations of Propargite Including the Wettable Powder in the Water Soluble Bag

QUESTIONS	PERSON CONTACTED	
	23	24
On a scale of 1 to 5, how well do you like the water soluble bag? (1 = dislike, 5 = like)	5	5
Have you worked with other materials which you felt were particularly dusty or irritating? What materials?	Yes; Princep, Daconil, Benlate, Lannate and sulfur	Yes; Plictran
Do you have any additional comments on Omite in water soluble packaging?	No comments	Would prefer to have Omite in 25-lb. water soluble bags

TABLE I

A Summary of the Survey of Persons in the Central Valley of California Who Mixed and Loaded Various Formulations of Propargite Including the Wettable Powder in the Water Soluble Bag

QUESTIONS	PERSON CONTACTED	
	25	26
How many years have you been mixing and loading pesticides?	12	1
How many seasons have you worked with Omite?	9	1
What Omite formulations have you used (Omite 30W in 5-lb. bags, and/or in 25-lb. bags, Omite 6E, or Comite)?	All the formulations of Omite	Omite 30W in 5 lb. bags
Have you ever gotten a rash or eye injury that you feel was a result of using Omite?	Yes, a rash	No
Have you worked with other materials packaged in water soluble bags? What materials?	Yes, Lannate, Guthion, and Morestan	No
Does the bag reduce the dustiness of the material while mixing/loading as compared to the 5-lb. bag; as compared to the 25-lb. bag?	Yes, for both	Yes, as compared to the 5-lb. bag
Does mixing/loading require more or less time using the water soluble bag?	Less time	Less time
Do you find any broken water soluble bags? How frequently? How many?	Yes; but infrequently	No
Is the water soluble bag a convenient size?	Yes	Yes
Do you ever have "partials" leftover?	No	No
Do you feel the Omite 30W water soluble bag is an improvement over the wetttable powder in conventional packaging?	Yes	Yes

TABLE I (Continued)

A Summary of the Survey of Persons in the Central Valley of California Who Mixed and Loaded Various Formulations of Propargite Including the Wettable Powder in the Water Soluble Bag

QUESTIONS	PERSON CONTACTED	
	25	26
On a scale of 1 to 5, how well do you like the water soluble bag? (1 = dislike, 5 = like)	5	5
Have you worked with other materials which you felt were particularly dusty or irritating? What materials?	Question not asked	Question not asked
Do you have any additional comments on Omite in water soluble packaging?	A 25-lb. water soluble bag would be useful. It should reduce exposure. All wettable powders should be packaged this way	A 25-lb. bag would be better